DOCUMENT RESUME

ED 211 043 IR 009 840

AUTHOR White, Robert A.
TITLE Motivational and Social Factors in the Use of Communication Technology for Education.
PUB DATE 80
NOTE 42p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Communications; *Developing Nations; *Educational Radio; *Educational Television; Social Influences; Socioeconomic Influences; *Student Motivation; Telecommunications
IDENTIFIERS *Communications Research; *Distance Education; Freire (Paulo); Instructional Variables

ABSTRACT

This review of the evidence regarding the motivational, pedagogical, and social factors which influence the effectiveness of new communications technology for distance education discusses the importance of new communications technology and the current directions of research in that area; motivational factors that are important in distance education; and some of the pedagogical problems and social factors that are influential in distance education. Twenty-eight references are listed. (LLS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED211043

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

MOTIVATIONAL AND SOCIAL FACTORS IN THE USE OF COMMUNICATION TECHNOLOGY FOR EDUCATION

Article presented to Revista de Educación, Madrid, Spain.

Robert A. White
Research Director
Centre for the Study of Communication and Culture
221 Goldhurst Terrace
London NW6 3EP
England

IR009840

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Robert A. White
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

In his effort to gain greater control over his environment, man continues to produce an ever more amazing array of technology. Indeed, man's technical creativity is a revealing insight into what it means to be a human person. Invariably, however, we are so facinated by the sheer experience of the new power of technology--like a child with a new toy--that the technology tends to become an end in itself. Through technology man gains new potential for being human, but it also exerts a power over man. The challenge is to humanise technology so that it is the servant of man and not vice versa.

This is also true in the case of the new communication technoloy in education. The tendency is to see the tremendous power that the teacher can have by using the microphone or appear before the television camera. Instead of reaching only one classroom, the number of students can be thousands. Many more people will have access to an education. Educational costs will be reduced.

There is increasing evidence of the benefits for education in the use of the media of social communication. But it is not enough to introduce the new media into the traditional institutional organisation of education. To be really effective in the human sense of the term, the new technology must be accompanied by changes in teaching methods and a new understanding of the social organisation of the "school."

In the following pages we will review some of the evidence regarding the motivational, pedagogical and social factors which influence the effectiveness of new communication technology for distance education. Some of the most innovative experiences in educational techology have occurred in developing countries, especially in Latin America. Perhaps

because the educational problems there are so great, there is need to find new answers. And because these countries are in a process of social transformation, they also have much to teach us about the importance of social factors in education. For example, the pedagogical methods of Paulo Freire, initially developed in Latin America, are now considered of international importance.

The educational innovation of one country or one institution can never be imitated directly. There are always unique factors. However, a clear analysis of how certain problems have been solved can stimulate our own creative thinking regarding the adaptation of new educational technology to our own circumstances.

Part I will consider the importance of new communications technology and current directions of research in that area. Part II will treat the motivational factors that are important in distance education, and Part III will indicate some of the pedagogical problems to be considered. Part IV will provide some analysis of the social factors that are influential in distance education.

Part I: The Importance of Alternative Technologies in Education

The Role of Communication Technology

Generally, education has been relatively resistant to basic innovations. It has been possible to introduce new technology and new forms of social organisation and communication in practically every area of modern life, and the immensely improved living conditions are a result of these changes. However, in the opinion of many educational specialists, we have not been able to advance beyond the most primitive methods in education.[1] With the introduction of technology we have been able to achieve great advances in the productivity of the economic system. That is, fewer people have been able to produce far greater quantity as well

quality of whatever goods are considered. There is a far more effective use of the scarce talents and financial resources of a country. The productivity in the area of education has not changed much in many generations. That is, in whatever way one wants to measure the goals of education, the returns on the money and human resources invested in the preparation of teachers, teachers salaries, in classrooms and in other educational facilities has not improved significantly.

Some seventy-five years ago, in an essentially agrarian society, education was a less critical factor in the social progress of the country. Today, in the age of computers with a technology ever more sophisticated and life more and more urbanised, the mere socio-political survival of a country depends on the quality of education. Consequently, it is of critical importance to know how to use well the scarce human and economic resources for the educational process. And this is not simply a question of the material advance of a nation. Countries which do not maintain certain economic levels run the risk of suffering the effect of cultural imperialism from other countries around them and the disintegration of their own cultural identity.

The demands of careful planning for a more efficient education are especially urgent for those countries which are competiting from a less developed technical and economic base. In a country which has, because of geographical good fortune, a superabundance of natural resources, there is a greater margin of error and greater possibility of confiding in the natural resources for national achievement. But in a country which has fewer natural resources and must depend principally on the human factor, the efficient use of resources for human education can be a key factor. This efficient use is not possible if we do not have information regarding alternative educational technology, the relative

cost-benefit ratio of each alternative, and the knowledge of how to employ a new alternative efficiently.

Most major technical advances in the area of education have been associated with the introduction of communication technology and the proper pedagogical and institutional organization that accompanies that new technology. For example, the introduction of the printing press with the possibility of multiplying rapidly the previous oral explanation of the teacher has been a major factor in modern universal education. What was formerly the privilege of a relatively small segment of the population has been made possible for everybody largly because of the combination of the printing press with a new institutional organisation of education. In many respects, the school and the methods of education as we know them today are very much centered around the printed book.

With the recent advances in the use of electronic media--especially film, radio and television--many countries are directing their attention to these innovations as a basic element in the design of new systems of instruction. Just as the book multiplies the effectiveness of the teacher, so also the new communication media offer the possibility of reducing dependency on the factor of man power which today is a factor continually more expensive. This will also enable us to use much more effectively the human capacities of the teacher just as the book eliminates many repetitive manual tasks. It was not easy for the very traditional institution of education to adapt itself to the introduction of the printing press or the book. So also it is not always easy for the contemporary teacher or school to adjust to the use of audio-visuals, film, radio or television.

Also important are the new dimensions of human development which new technology permits and facilitates. One new dimension facilitated

by the new media is the possibility of taking advantage of the "language of the image" in audio-visual media. It is not merely a question of the improvement of retention--in the sense of "one image is worth a thousand words" --but that the image develops affective and intellectual aspects of the personality which are not possible with the traditional form of education.

The new media may also permit much more flexibility. Our concept of education as an interval at the beginning of life and restricted to an educational centre is a very limited one. We are returning now to an emphasis on permanent education, to the concept of education as a continual process in life. This can be much more efficient because it permits us to use educational resources in the "most educable moment", to use the phrase of Ivan Illich.[2] We can educate people when they are most motivated. Distance education in all its forms but especially through radio and television permits much more flexibility. An individual does not have to leave his employment for a period of schooling or use time to travel to an educational centre. This reduces the investment in buildings and teachers as means of education. The adult can continue in his work without losing income and without the necessity of an employer covering the loss of salary.

We should also take into consideration that the popular mass media --radio and now television--are today the most important factors of non-formal education in the lives of most people. The educator can adopt the attitude that television is pure entertainment, a very superficial experience or even the enemy of study, and pay no attention to television. Perhaps, with this attitude, educators are ignoring the most powerful means of education at their disposal.

Is Distance Education as Effective and as Efficient as Conventional Educational Methods

The educational planner or administrator as well as the classroom teacher may be convinced at a relatively abstract level that the introduction of new communication technology can improve both the quality and the number of students served. However, many doubts remain as to whether in practice students in distance education programmes using radio or televison actually do learn as effectively as with conventional methods.

The answer based on the evaluation of a very large number of experiences in various parts of the world is that students can learn equally well from just about any medium or method if the method is used well. There are now a number of good summaries of research and evaluation of new communication technology in education. Examples are Wilbur Schramm's Big Media, Little Media;[3] Jamison and McAnany's Radio for Education and Development;[4] and, more recently, Perraton's Alternative Routes to Formal Education: Distiance Education for School Equivalency[5] and UNESCO's The Economics of New Educational Media.[6] All of these studies show that distance education usually can be effective. However, the critical factors are the general quality of administration and the way radio or television is integrated into the instructional programme.

To illustrate the kinds of questions administrators might ask in introducing new communication technology, it is useful to summarise briefly the conclusions of the review of research on the effectiveness of radio for formal education given by Jamison and McAnany.[7] They propose as three basic questions:

1. Does the technology make education opportunities more accessible to a larger number of students?

2. Does it improve the quality of the instruction given?
3. Does it reduce the costs, presuming that quality and access remain equally as good?

The authors then propose major strategies for increasing access, improving the quality of education and reducing costs by using radio.

1. In-school enrichment That is, adding radio broadcasts to the existing instructional programme in schools to provide variety or a type of instruction which the teacher may not be able to give.

This use of radio does not improve access because it is for the same number of students nor does it reduce costs since it presumes the same number of teachers and classrooms. In fact it may increase costs. It might improve the quality of education if the broadcasts are carefully selected and integrated into the ordinary teaching programme. Much would depend on the preparation of the teacher to use the radio broadcasts.

2. Direct instruction. That is, maintaining the existing classrooms and teaching staff, but supplementing the work of the teacher in one or two subject matters.

Here again, since the existing classrooms and teachers are used, costs are not reduced. However the quality of education can be very much improved because it fills a specific need within a relatively strong administrative and teaching structure. Again, much depends on the quality of the broadcast material and the way it is integrated into the teaching programme.

3. Extending in-school education. In this strategy the broadcasts cover virtually all of the subject matters in the curriculum and the teacher does little more than supervise the students. This may improve the access if there is a serious shortage of minimally qualified teachers,

and it may lower costs if monitors are volunteers or have only nominal salaries. This strategy requires very high quality teaching materials, broadcast classes and good general administration because the students never have access to a teacher to give them basic study habits or to answer more difficult questions.

4. Distance Learning. Here a communication technology combined with textbooks and occasional interactions with qualified teachers completely replaces the teacher and the school. This can clearly improve access and reduces costs. It can also give even better quality instruction than conventional methods, although comparisons are relative. Radio ECCA in the Canary Islands and Radio Santa Maria in the Dominican Republic are two examples of quite successful uses of this model.

Some of the strategies such as the third model described above appear to have inherent limitations, but all of them are useful strategies in certain circumstances. It is also likely that all of them can give reasonably good results if there is good administration, skillful use of the radio medium and careful preparation of student motivation and teaching materials. Increasingly researchers are turning away from the question of whether it is possible to get good results with radio or another medium to the question of how the technology of distance education can be employed to improve access. quality and reduce costs.

A number of studies of cost-effectiveness[8] have commented that there is a tendency to treat the complex of variables in the educational process as a unit. Education is the "black box" which, by some luck or unusal combination of unknown factors, influences a number of "outputs" or benefits. There has not been sufficient attempts to break down the internal educational process in terms of key variables which are of

greater importance in the results of distance education. That is, it is important to know more precisely what are the factors which reduce costs and increase effectiveness. For most educational planners and administrators it is not enough to know that the technology involved in distance education can improve access and quality or reduce costs. They want to know how this is done. These are the questions of educators.

Perhaps the major problem is that educators look upon the audio-visuals, radio or television as simply an extension of the traditional classroom method The new media demand a new method of teaching and new approaches in administration. Unless this is realised, you can have all the expenses of installing communication technology but fail to realise how to use it. This will, in the economic analysis, affect decisively the cost-effectiveness ratio.

This paper will focus on four aspects of this question of how distance education can be made more effective: the motivation of students, administration, preparation of materials and use of the media, and the interrelation of educational processes and the social context.

Part II: Responding to the Motivations of Students

All education must be a personal effort of students to acquire and integrate the knowledge or formation experience which constitutes the educational process. No matter how well-prepared the teacher or how elegant the school facilities, if students are not motivated little will be accomplished.

However, most forms of distance education imply a shifting of emphasis from teachers or institutional initiative to student initiative in education so that the student must learn not to depend so greatly on the institutional structure for his or her learning experiences. As

Philip Coombs has remarked:

> 'The heavy reliance on face to face oral instruction has absorbed the bulk of resources in staff costs--leaving little or nothing for other aids to learning--and caused them to become the main bottleneck to expanding learning opportunites . . .It has also wasted the greatest educational resource of all--the extrodinary capacity of motivated people to learn on their own when given easy access to the stuff of learning.[9]

One of the advantages of distance education is that it frequently emphasises personal initiative that can be a life-long educational habit,

The level of motivation of students is a critical factor in reducing the cost per pupil in distance education. Usually the cost-effectiveness ration of education is calculated on the basis of the total costs divided by the number of students finishing the course. In distance education the advantage is obtained by having a very high quality central teaching team which prepares the printed materials and the broadcasts. The costs of the broadcasting equipment, administration, the central teaching team and the broadcast operating expenses are usually the same whether there are 50 or 50,000 students. Since students are frequently studying in the home or meeting in some borrowed facilities, the variable costs tend to be lower than in conventional education. consequently, the cost per student can be reduced considerably if a larger number are motivated to enter the programme and are retained until the end. Institutions which are skillful in motivating students have the best results in terms of quality and the lowest cost-effectiveness ratio.

1. Analysing the Objective Educational Needs of Students: the Influence of Social Structure on Student Motivation

Many educational planners look at the objective needs of their country and tend to assume that since a certain sector of the population --in the estimation of economic or educational planners--should have

a particular type of education, the people can be motivated to participate in the programme. There is a tendency to see motivation as primarily a personal matter. The structural influences in motivation are not carefully analysed. To illustrate this, it may be useful to take the example of programmes of adult literacy or adult basic education.

Many planners look at the educational statistics of their country, see that a high percentage of illiterates are adults living in rural areas and then a plan is set forth for the literacy training for adults, (24-40 years of age) who are of semi-subsistance agricultural background. These programmes are seen as the support for agricultural development projects and for solving a wide range of rural problems. Later, when they examine statistics of their programmes (if they have complete statistics and actually do study them), they find that they are enrolling primarily youth of 12-24 years who have alread had some experience in rural primary schools, and how have some literacy and numeracy capacity. What is happening here?

Only unusual illiterate adults over 30 or 35 have the motivation and the life context to <u>finish</u> a basic education programme. Most have defined their life aspirations, especially if they have begun to form a family, and they are heavily burdened by present work and home commitments. If they have never had any primary school experience, it is difficult for them to pick up the basic study habits in the frequently less-structured adult education programmes. Many such adults may begin, but few finish.

The problem is that many such basic education programmes design the motivational structure, the teaching materials and the teaching methods for illiterate adults over 24 years when in fact the majority of their students will be adolescents who want to complete their formal

education and move out of the community to take advantage of job opportunities in towns or cities.

When a formal or non-formal distance education programme is going to be established it is often difficult to predict precisely what sector of a given population will respond so that the programme can be designed more specifically for that group. Unlike the conventional classroom educational system, distance education does not have an institutionalised motivational pattern which all are expected to conform to. However, one should be aware of the possible motivational impact of general socio-economic conditions and specific motivational devices which are consciously or unconsciously used. This is exemplified by examining the experience of Radio Santa Maria (RSM) with its primary and intermediate radio equivalency programme in the Caribbean island of the Dominican Republic.[10]

RSM planned its educational process primarily for adults who were permanent residents in rural communities. The overall programme stressed the preparation of rural leaders for community organisations and social change action in rural areas. However, RSM emphasised in student motivation the offer of an officially recognised certificate at the completion of the primary (sixth grade) and intermediate levels (eighth grade).

The enrollment over six grades (grades 3-8) reached 15-20,000 students almost immediately after the programme was established. The highest enrollment and the best retention rates (60-80 %) were in the sixth and eighth grades, grade levels in which the certificates were received. A survey of motivations in the author's study of RSM indicated that most students aspired to attend secondary and even university levels.[11]

An examination of the structural socio-economic factors influencing the region where the enrollment response was greatest showed that many

of the primary schools reached only fourth grade and were terribly crowded and understaffed. The median age of RSM students was about 16, and many were sons and daughters of somewhat higher status rural families (not wealthy by Domincan Republic standards, but usually their parents had at least a small plot of land). Most students had taken advantage of the existing primary school education as far as it went. Moreover, the region had a large number of secondary schools in the rural areas established by the Catholic Church or in small towns by the government. Many RSM students could reach these secondary schools on foot or by bus since that section of the Domincan Republic had a good bus system. A secondary education was a real possibility and, in fact, not a few RSM graduates were entering these secondary schools and competing well. Also, after 1970 in the Dominican Republic many new private universities were established and both the national university and the private universities opened night-school branches in provincial towns.

Most important, the Balaguer government in the period from 1966-78 set in motion a "modernisation model" of national development, emphasising urban industrial expansion, improvement of services in the politically volatile cities and favouring urban United States influence as a motivation for development. The rural areas received much less public investment except for creating a good road system leading to rural towns. Peasant organisations which would have given rural people a voice in the national decision making were ruthlessly repressed, and potential conflict with peasant groups which might have started popular movements were skillfully eliminated by the government. Such a policy created powerful motivations for young people to leave the rural areas for the towns and cities, and the primary, intermediate and secondary certificates were the passports to entering the favoured urban middle-class sector.[12]

Many of the auxiliary teachers who organised a sector of the RSM programme were adolescent secondary school students in rural communities whose income from RSM students helped defray transport and other costs associated with enrollment in public or private secondary schools.

The modernisation programme of the government of the Dominican Republic also indirectly influenced a strong youth culture. When rural areas of Latin America are quite isolated--such as the mountainous Andean region--one finds little "youth culture" in rural areas, especially if the country has a generally low level of modernisation in the more rural provinces. In rural peasant communities children pass directly to adult roles associated with the routine of semi-subsistence farming families. But by the 1970's in the rural areas of the small Caribbean island of the Dominican Republic there was considerable urban influence and a flourishing youth culture in rural communities. Particularly important for RSM's "adult" education programme was a movement of youth clubs centered around the "cultural uplift and educational enrichment of young people." These spread through the communities of the Cibao region where RSM was located. Frequently one of the "projects" of these youth clubs was to organise a sector of RSM and encourage enrollment through a type of group pressure. The leaders of these youth clubs became the auxiliary teachers, themselves interested in education and in upward mobility toward the urban middle classes.

This brief analysis shows the importance of being aware of the structural factors which influence motivations. And this requires some acquaintance with the current sociological analysis of the dominant processes in the country.

2. Detecting and Responding to the Motivations Which Arise Out of Student Perceptions of Benefits

Many educational programmes are avoiding the mistake of assuming that traditional literacy or the basic educational needs are automatically the needs that students will perceive. Elaborate surveys have been carried out before planning the programme asking a sample of the target population what their educational needs are and how an educational programme should be structured. This is a very positive step and it usually produces useful information.

However, it is often very difficult to get a picture of real educational needs from this type of survey if it is done in a quantified manner. People tend to identify their educational needs in terms of rather stereotyped impressions that they have of existing educational programmes. For example, if they have heard of the existence of a degree-granting basic education programme, they will express interest in this even though objectively lower-status sectors in rural areas of many developing countries may not have need for much of the course material included in a formal educational programme designed to prepare students for secondary and higher education. To design a non-formal educational programme frequently it is necessary to associate informally with the target group over a longer period of time--a more anthropological methodology--to see how a particular kind of educational process can fit into the life pattern of the group. Good administrators of basic education or non-formal programmes usually are people who seek considerable direct contact with the potential student group.

3. The Motivational Promotion of the Programme

Often the long-range benefits of an educational programme--certification and entry into higher levels of education, employment,

or service to the community--are not directly related to the content taught. However, educators tend to think that the knowledge or skills acquired will be in themselves of intrinsic interest to the students. Often the subject matter can be made intrinsically interesting, but there is a larger motivational pattern which initially induces students to choose to enter a course. Unfortunately most students see the course content as a means to an end--at least at the outset. For example, for many students from a working-class background who are interested in social advancement, the certificate which allows them to go on to further education is of great motivational importance. Educators may fear--and rightly--that emphasising the certification will cause students to study just enough to pass a course. Worse, playing up motivations to use education as a means to "enter the system" makes education an instrument of cultural imperialism instead of a personal and social liberating force in the lives of the students.[13]

Many skillful administrators have learned to simply accept the fact that external motivation is at least the initial reason why students enroll. They are not afraid to highlight this motivation in the initial promotion to get students interested and even to sustain motivation through a course. The risks are obvious. But often in the popular culture distance education has a "second-rate" image and people are convinced only by the public demonstration of other students receiving a diploma, statistics which indicate the jobs graduates have obtained, and so forth.

Educators then hope to set up an educational process which will interest students in the intrinsic motivations--personal development, the importance of really mastering certain skills, etc. Administrators of distance education programmes often have to consciously set aside

a significant proportion of their time for promotion and plan carefully the education of the public regarding new educational alternatives. Ideally, this education of the public will demonstrate the real value of education, and suggest that education should lead to a humanising of the system. This may depend on the degree of financial independence the school system has.

4. Using the "Conscientization Method" of Paulo Freire to Develop Motivation

Some planners of adult education programmes would stress the importance of preparing the motivation before and during the process so that there is an intrinsic relationship between motivation and the content of the course material. The pedagogical method of Brazilian philosopher of education, Paulo Freire, is especially notable as an attempt to prepare students so that they are motivated in terms of the deeper social and political objectives of their education. Freire encouraged students to reflect on the problems in their personal and social milieu before they started a literacy programme.

In the Brazilian context of the late 1950's literacy was a requirement for voting. Freire and his assistants saw that it was not enough that rural and urban workers simply learned to write and to recognise a few words to pass an examination for voting, but that they understand the significance of voting and other aspects of political participation. Voting should not just be the fanatical following of one or other candidate, but a conscious understanding of their problems and the cultural-political problems of Brazil so that they could consciously and responsibly contribute to the social and cultural development of Brazil.

Briefly, the first step in the method was to detect in the language

pattern of the people the key words which were assoicated with the potential students' perception of the causes of their problems and were indicative of aspirations for social and personal development.

Workers and peasants were encouraged to engage in a prior discussion of these problems in which there was a process of reflection on the causes of the problem. Although these discussions could arrive at many different understandings of the causes, generally the process stimulated a great deal of reflection which led up to voting. The discussions also generally led a large number of the students to enroll and successfully complete the literacy programme for the voting requirement.

There are now many variations on the Freire conscientization method but essentially it has the effect not only of greater motivation linked to the social and cultural context in which students live but also develops critical, analytical capacities regarding the use of the education they receive. The previous study of "generating words" or basic themes has the effect also of centering the development of the subject matter around the key motivations of the student population so that interest and commitment to study are likely to build up in the course of the educational programme.[14]

The audio-visual, radio or television medium offers many possibilities for helping students to reflect on the situation in which they live. According to one study of the major characteristics of the naive, completely non-critical mentality is the psychological denial that the problem exists. When one is powerless before serious social or economic problems, the best way to maintain one's psychological balance and social well-being is to try to forget about the problems, or to ascribe the causes, in a fatalistic manner, to powerful, impersonal and unmanageable

forces. To move toward a more rational and critical analysis, many educational programmes project slides or present charts which present objectively--away from the subjective-personal involvement--the situation in which people live. The literacy programme of Acción Cultural Popular Hondureña, which incorporated the Freire-based psycho-social method, associated each of the generating words with a photograph of typical peasant life in Honduras. These photographs were mounted on charts which were distributed to each of the radio school monitors. The broadcast explanations and the cartillas (textbooks) were also developed around the photographs. During class explanations the monitors would lead discussions analysing, in almost projective fashion, what the peasant students saw in the picture and then relating that to their own situation. The students were thus encouraged to discuss and analyse the problems of the "other" people and to establish the chain of causes of their own problems. They were then able to gradually apply this same analysis to their own situation.[16]

A slide presentation which uses all of the power of the symbol and the language of the image can be especially effective. If radio or sound cassette is the medium, then one can use the radio drama to portray a life situation. Radio Santa Maria developed the technique of visits to communities in which a particularly significant portion of one of the SERPAL radio drama programmes such as Tio Vicente or Jurado Trece was played to a group of people in the community meeting. The discussion was recorded and, later, with the permission (and usually pride) of the local people both the drama selection and the recorded discussion was played back over the Universidad Para Todos open-broadcasting programme. The moderators then engaged in a discussion during the live broadcast regarding the original drama, the reactions of people in a typical rural community, and then questioned the audience. The audience was

then invited to send in their letters as part of a larger dialogue on the problem. The programme was immensely popular in the region, and there were almost always letters received. These were read and commented on in the programme, and this would spark another step in the dialogue and discussion. This can bring the audience into active participation in discussions of the problems people accept fatalistically.

5. The Mass Campaign as a Motivational Device

Many national governments and educational institutions have had considerable motivational impact with the mass educational campaign. The mass campaign is more appropriate for educational efforts in a very specific area of behaviour that is common to virtually everyone in a large segment of the population. The best examples are national preventive health practices, civic education for voting or, in some cases, literacy. The campaign has the advantage of saturating the media and creating a new cultural reality. It implants a series of basic norms in the whole population even if not everybody participates or actually implements the recommendations. The impression is given of "everyone is doing it." The educational process becomes a social movement to change the country with all of the accompanying idealistic mystique and the ideology of national progress.

The mass campaign precisely takes advantage of the social communication dimension of education which traditional face-to-face teaching methods lack. It helps to make education truly a process of cultural development and not just individual development.

The success of the mass campaign depends on the careful long-range advance planning. The use of all the media available, including face-to-face social contacts is important. The campaign must involve

the prominent authority figures of the region or country--if they represent the appropriate values--and be built around carefully selected goals and slogans.

Most such campaigns are based upon the use of the mass media, local discussion groups with trained leaders, carefully prepared printed materials which are distributed to discussion groups, and a set of very defined behavioural goals. The campaign generally attempts to enlist all of the existing institutions of the country that are culturally important: government agencies, the educational system, the Church where that is important, a national political party in, for example, a one-party "national liberation state" in Africa, youth groups, peasant and labour organisations, and so forth.

Some of the best examples of literacy campaigns are the historic case of Cuba and more recently in Nicaragua. The health campaign in Tanzania in 1973-1974 had a very notable impact.[17] Radio Santa Maria carried out a national civic education programme in preparation for the national elections of the Dominican Republic in 1978. As the campaign gathered momentum and more and more organisations participated, more than 100,000 booklets were distributed to discussion groups in all parts of the country.

In some way, virtually every educational programme which involves radio or television must use some element of the mass campaign at least as an initial promotional device.

6. Cultivating the Initiative of the Student by the Method of Instruction

In programmes of distance education where the student is not in the institutional setting of the direct supervision by the teacher, the emphasis must be on motivating the independent initiative of the student.

To do this effectively the instruction must adapt itself to the potential of the medium. For example, if the medium is radio, all of the potential of sound--different voices, dialogue, radio drama, and music--must be skillfully combined. Unfortunately many using for example, radio not only maintain the essential pattern of conventional teaching but compound the problem by reading to the microphone instead of learning to respond to a mass audience. In addition they fail to integrate such techniques as dialogue and radio drama. The classes become boring and students lose interest. [18]

The most successful uses of radio have focused on keeping the student active. Radio Santa Maria, for example, designed the printed materials so that the student could be asked in the radio classes to complete the reasoning process on the printed squema with pencil in hand. The central teaching broadcasts are a form of dialogue--not just alternating a male and female voice--with one voice taking the position of the teacher and the other, the student, and then continuing through a questioning and discovery process. At other times to make the subject matter of, for example, mathematics more relative to the life context of students, a short real-life radio drama is introduced, posing a problem to be solved such as a commercial transaction. The teachers involve the listening students in a type of search and internal dialogue implanting in this way a method of reflection and study.

The Nicaragua radio mathematics project, which has been unusually successful in supplementing mathematics instruction in primary schools, found that keeping students active was most important.

> 'It was found that the greater the demand for active student response in the radio lessons, the more effective these lessons were. Consequently, the format of the lessons gradually changed to a faster-paced active response style that demanded oral, physical, and written responses from the students. The skills taught were reinforced by mixed drills, so that the topics introduced reappeared subsequently in frequent, short practice sessions throughout the school year.' [19]

Part III: Gaining Effectiveness Through Improved Teaching Strategies and Better Administration

The introduction of the technology of distance education requires a number of significant adaptations both in teaching methods and in the systems of supervision. In the following section we will consider some of more critical points if the real effectiveness of the new technology is to be taken advantage of.

1. Forms of Combining Various Media

There is a tendency among some educational planners to think that once radio, television or other medium is introduced, it is the magic tool which now supplants other teaching methods. However, the distance medium is almost always only one of several educational instruments and the advantage comes not simply in introducing the medium, but in the skillful combination. The different media or learning experiences should be interdependent and interactive so that one dimension enhances every other dimension. Radio or television may be the most novel aspect so the teaching process is tagged "radio schools" as if radio were the only or most important part. In fact printed texts used with the radio may be equally or even more important. The problem arises when we expect one dimension--the distance medium --to do more than it can.

Radio Santa Maria has been developing the combination of six different learning experiences.

1. The basic educational aid provided for the student is a weekly set of six to eight attractively printed lesson sheets, one for each subject, containing on one side an outline of the material to be explained in one week of radio broadcasts and, on the other, a series of written exercises. These lesson sheets, which, over the twenty-three weeks of a course, form a combination text and work-book, are distributed to the student each week for work at home. Thus, the system of Radio Santa Maria resembles a correspondence course with broadcaast explanations and a weekly meeting with a field teacher.

In the RSM plan the printed materials are the basic element. It is especially the "action element." Each squema is incomplete, with a built in series of problems which the student must think through, complete, and solve.

2. Second in importance is a one-hour, daily broadcast (Monday to Friday) explaining the material in the lesson sheets: one half hour given to explanation and one half hour to working the exercises.

The radio broadcasts are intended to be guidance, the instilling of a way of thinking, a logic in solving problems, enrichment, motivation, and the personal contact with the teacher which makes it a more human process.

3. Supplementing the lesson sheets and daily broadcasts is a field teacher who corrects the written exercises, answers students' questions and detects individual students' weaknesses so that help may be given if necessary.

The student is expected to learn primarily through study of the distributed lesson sheets and the broadcast classes so that the field teacher's function is to give the added element of personal guidance. The field teacher is the very individualised element that all education needs: spotting the weaker students, giving them more help, adapting explanations to the specific needs of a given student.

4. As a communitarian dimension of the learning process, the field teacher holds a weekly meeting with the students of his or her 'sector' to answer questions in a group context, explain material which is a problem to the whole group, provide general reviews for examinations, and give the examinations. An important part of this interchange is the discussion of a social question which has been the 'central theme' of the various subject matters during the week.

This is the element of integration of the subject matter into the broader life context of the student. It is also the instrument of 'concientización' , teaching students to question the forces that are influencing the life of the community. This welds the students together into a group which questions their life patterns and goals.

5. Radio Santa Maria provides other general cultural and educational programmes and a series of special programmes for different age and occupational groups. These programmes are designed to give an important cultural and educational support to the more formal educational process.

Radio Santa Maria has designed its overall programming with several basic goals in mind so that the combined programming to different sectors of the rural family reinforce each other and there is one central concientising impact. Some 60 % of the radio school students of RSM say that they listen to the main cultural-educational daily programme, the University for All. (Only 19% listen to the daily radio novela!).[20] The Radio is the mass media element which creates the general "social-cultural reality" in which most of the students live. The radio classes in themselves would be incomplete without the general impact of the radio in the mind of the RSM team.

6. Finally, since Radio Santa Maria maintains no staff for promoting organisations at the community level, its educationa programmes work through existing organisations, and the activities of these organisations are looked upon as an extension of the more formal educational courses. Radio Santa Maria students are expected to consider active participation and leadership in community organisations as part of their education.

This is the attempt to link the education with active community involvement. This was not always successful in the case of RSM precisely because most of the students were adolescents. Only where there were youth clubs was this possible.

On this final point it is useful to mention the experience of Acción Cultural Popular Hondureña in the 1960's. They discovered very soon that the literacy program in itself was not significant. So they instituted a whole series of community organisations--community development councils, cooperatives, peasant organisations, and women's organisations--federated usually on a regional level. Since peasants had traditionally been excluded from decision making, literacy became the symbol of participating in these organisations and the means for

"breaking into" the local leadership structure which before had been usually limited to a few traditional families in the neighborhoods. It also gave the participants in the course a chance to use their literacy. Since literate capacities had always been associated with leadership positions--the local gatekeepers for the power structure--literacy was symbolic of structural changes.[21]

2. Preparation of Teaching Materials

There is consensus among those who have studied distance education that the selection of the curriculum and the preparation of the teaching materials have a greater influence on the results than the selection of the medium itself.[22]

Distance education is often directed to students with a quite different educational background, social status and cultural capacity. It is often most difficult to design teaching materials that are effective with every one of these groups.

Frequently these programmes are directed to students in the provincial towns or farming neighborhoods of rural areas. The central teaching staff, preparing materials and broadcasts, comes from the urban middle class. There are often serious problems in subject matters which are irrelevant, problems in the language used, and the use of methods which are very difficult for the students. Teachers are frequently recruited from the pool of people trained in the traditional normal schools or from those with classroom experience. At times this central team is culturally very distant from students, and it is difficult for them to really identify with the students. Conventional teaching methods do not have quite the same problem because there is more direct interaction with students, and teachers are more likely to be natives of the place

where they are actually teaching.

There may be less of a problem for equivalency courses at the secondary or university level, but it becomes increasingly problematic as one moves to lower educational levels and especially in the case of non-formal education.[23]

One of the solutions, discussed above, is to design the materials on the basis of an informal study of the life context of the students. In the case of Radio Santa Maria in the Domincan Republic, a special training course, which discussed the historical and social conditions of the students, was given to the teaching team by CEC, a centre for educational research and training. This was combined with a special study-participation programme out in the rural neighborhoods of the population served by Radio Santa Maria. This reportedly improved very much the quality of the teaching materials.

In almost all cases when new teaching materials are introduced, an evaluation of the comprehension by students and the suitability of the methods should be planned. This may seem evident, but one continually encounters cases of primary school programmes using distance teaching to lower-status rural groups in which there has been no such evaluation even for years after the introduction of the materials. In one case, when the evaluation was finally done, it was discovered that the writers of the texts had committed errors of fact regarding peasant life and that the pace and method of teaching was very poorly adapted to the level of the students.

3. Using Centralised Supervisory Procedures

The ECCA system of radio schools, especially the variant exemplified by Radio Santa Maria, has developed a system of supervision which entails frequent repors by mail from assistant teachers. This makes it

possible to supervise the work of field teachers in 500-600 sectors with some 15,000 students with only three or four field personnel. This contrasts with Acción Cultural Popular Hondureña, using a variant of the ACPO system of radio schools (from Colombia), with a staff of 100 field supervisors with approximately 10,000 students.[24] It is clear that in the second case the cost-effectiveness ratio is going to very much lower because of the salaries required for supervisors and the regional supervisors of the supervisors! This, in turn greatly increases the amount of supervisory and administrative staff in the central office.

In the case of Radio Santa Maria, instead of having regular visits to every school as frequent as once a month--as ACPH in Honduras did--field supervisors visit a sector only when there is a report or indication of a problem. The central office supervision--staffed by two secretaries!--has a relatively formalised procedure of analysis of reports from field teachers that should come in every week. This enabled them to dectect problems very quickly. The students who were paying for the weekly mailing of study materials also were often quick to inform the central office when a field teacher was not performing as expected. When problems arose, the small staff of field supervisors was alerted and an individual visit was made. This threw the responsibility for the quality of work on the field teachers and the students themselves rather than the field supervisors. In contrast, when there are constant visits of field staff, the radio school monitors become dependent and refuse to solve problems unless they are visited.

4. Using the Promotional and Administrative Support of Existing Local Organisations

Nearly all of the radio school systems of Latin America have reduced costs very much by working through existing organisations such

as the Church, peasant organisations, youth clubs or the local primary school teachers. In Tanzania the national political party, TANU, which is the heart of the nation-building movement in that country, has served this function in their many non-formal educational campaigns.[25]

These organisations have an intrinsic interest in seeing their participants gain the benefit of the education, and they are willing to assume many of the costs of promotion, administration and local monitoring of classes. The Church, for example, is interested that its neighborhood lay ministers are able to read the Bible well, and the Church often has a structure reaching into every small neighborhood. For example, Alfalit in Latin America has been promoted by the Evangelical Church with considerable success. These support organisations are especially helpful if the system depends on volunteer or semi-volunteer auxiliary teachers. These organisations have long worked in the outlying region and know the needs of the people, the leadership structure and can select good local teachers. Often, the best candidates are the loyal leaders of the local organisation. A central administrative staff of a distance education team can never hope to know the situation and keep up with changes as well as a local organisation.

If the local organisation takes on the basic education programme as a project, they invest all of the motivational resources at their disposal and use their network of informal communication. The educational institutions then become a service to local organisations rather than directly responsible so that the effectiveness of the central administration is multiplied many times over.

There is a strong movement among Latin American radio school systems federated in the Asociación Latinoamericana de Educación Radiofónica (ALER) to introduce more participatory decision-making.

This, ideally, would entail elected educational committees at the local level. Or it might be constituted through the existing structure of local organisations. Unfortunately, the goals of participatory decision making have never been made very explicit and, in fact, there are few systems where there is such a structure of decision making from the grass roots. Usually boards of directors are made up of the same urban middle class people as the administration and teaching team of the system.

5. Determining the Level of Adequate Investment

It is important for educational institutions to have a clear idea of the level of quality that their resources will permit. To give an example of this problem, let us say that with a certain number of field supervisors the average grade level of students in the final examinations is 70. We can estimate that if we double the number of field staff, we can raise the grade level to 75. However, there is a ceiling on the level of achievement that students can reach. If we triple the number of field supervisors the average grade levels can be raised only to 77. Each marginal increase will bring a ever lower level of increase in the quality of outcomes.

Administrators may judge that in a developing country with few resources, they will have to be satisfied with a grade level of only 70 or 75. Perhaps in wealthy countries--with high demands for educational quality--are certain levels of investment justified. Knowing the point of equilibrium is very important for reaching the right cost-effectivness ratio in the use of educational technology.

6. Evaluation of Specific Aspects of the Educational Process

When distance education systems do evaluate they are frequently

content to analyse the relation of the educational process as a unit with the global output in terms of students graduated. They do not break down the educational process into specific aspects such as quality of teaching materials, quality of supervisors or effectiveness of the auxiliary teachers in the field. Thus, it is not possible to see which of these aspects is contributing most to educational outcomes or to the deficiencies of outcomes.

In the evaluation of Radio Santa Maria[26] it was suspected that the quality of field teachers was a critical point for this particular system. A very simple quantified measure of the effectiveness of field teachers was devised and it was possible to show, at least at an approximate level, that sectors of the radio school that had good field teachers generally had higher grade level averages. This, combined with many other direct observations and indirect measures, indicated that probably the best single increase of investment for Radio Santa Maria would be in the better selection and training of their field teachers.

Part IV: The Influence of the Socio-Economic Context on the Outcomes of Educational Programmes

At times educational institutions maintain a high level of quality in the instructional process, and this is effective in terms of the number of students graduated, knowledge gained and skills acquired. However, these personal and social benefits are of little significance because of the difficulties of using these educational skills placed by the social, economic and political factors operating in the context.

1. Assuring the Presence of Conditions Which are Essential for Utilising the Education Received

Programmes of distance education frequently are directed to adults, and it is expected that the education received will serve them in their work or in other aspects of their life. However, in many cases,

those who do achieve a functional level of literacy have nothing in the house to read, never have access to newspapers or magazines and do not have jobs which require that they read. Their social position keeps them out of leadership and decision-making positions so that they can never use their literate capacities in that way. In these circumstances, they soon become funcionally illiterate very soon. Moreover, literacy is not just the ability to interpret symbols on a page or to write a letter. It is having the world of ideas that are part of the literate tradition of the nation--or at least of that sector of society to which they belong.[27]

Likewise we have agricultural education programmes for peasants without land and health programmes for people who do not have access to even minimal medical attention and no money for medicines.

In many cases if there are not prior structural changes which permit access to employment or access to a social status which is more favourable, the investment in education is wasted.[28] This is the result of a lack of analysis and planning of the educator along with the sociologist and economist. As in the case of Acción Cultural Popular Hondureña in the 1960's, many adult education programmes in developing countries are concluding that the most important part of their work is education for liberation. That is, a greater consciousness of the structural factors which are causing their problems, massive popular organisation, and an understanding of how lower-status groups can enter into the national decision-making process.

2. Taking Into Consideration the Structure of Communication Based on the Pattern of Social Power

Studies of communication have long been aware that the means of social communication are inserted into a national and regional network

of formal and informal communication. The well-known hypothesis of the "two-step flow" of communication proposes, for example, that the information of the mass media tends to reach the opinion leaders within a social network and these leaders, in turn, communicate this information informally to their friends, relatives, and others with whom they may have contact. Although this hypothesis is now very much questioned, there is considerable evidence regarding the effectiveness of orienting the mass media to key persons in the community, to a key extended family or to a local organisation. These leaders translate the more "urban" information into the language more comprehensible for the neighbors, contributing their authority and moral influence to the message and assuring the diffusion of the message throught the network.

At the same time, this structure of communication can be a barrier to the flow of information. Often opinion leaders occupy a higher position in the structure of power and it is not in their interest that information or resources (which are factors of power) be communicated to others in the network unless this be to create greater dependence on them. In many developing countries the real obstacle to development is the concentration of social power and the structural rigidities blocking a real flow of information to those who need it most. Development introduces resources into the system, but these simply flow to the most powerful. The same is true of education. Often only those in higher status positions have real access to education.

The influence of the hierarchical structure of communication is exemplified in the case of Honduras. In 1950 the government of Honduras established a sistem of services of credit, technical assistance and production supplies for agricultural development. In a cooperative programme with the United States, the model of agricultural extension

of the United States was introduced. In that country the extension system had generally served well the single-family production unit, probably because of the distribution of land resources. It was thought that this new system of education and agricultural services would also serve the single-family farms in Honduras. They did not take into consideration the hierarchical power structure of Honduras and the lack of good distribution of land resources. The credit, agricultural technical assistance, and other resources went to those with land and especially those with large, multi-family commericial operations. The single-family unit in Honduras is often a semi-subistence farmer with not more than five to ten hectares. Isolated in mountain valleys, these peasant farmers never saw the agricultural extension agent or the representative of the agricultural bank. The roads carried the jeeps of the extension agents only to the large, multi-family farms. Nor did they take into account that the technology introduced from the United States was for a single-family unit of from 200 to 300 hectares and had been designed for farmers who had easy access to markets.

The result in Honduras was to make available the best resources to the larger farmers. With new credit and market access, these large farmers moved to take over under-utilised government land and the land of many smaller farmers. The smaller farmers could only market their products through the larger farmers--from whom they also got credit. Often the local large farmer would get credit from the agricultural bank for 10% interest and then loan this out in small quantities at 30% to 50% interest to his neighbors. With these structural conditions the economic situation of the peasant families rapidly deteriorated. This model of development made the social and economic situation of the majority worse instead of better.

However, this very rapid deterioration of the situation of peasant farmers influenced the rise of a massive peasant movement in the years 1969-1975 creating a new base of power for peasants and much more influence in national decision making. The peasant organisations also created a new channel of communication between the national government and the peasant farmers who were now frequently organised in production cooperatives. Beginning in 1972 the government of Honduras began to recognise the peasant organisations and used this organisation as the channel of credit, technical assistance and popular education. Little by little these peasant organisations are assuming more responsibility for education and communication with peasant farmers.

The structure of social power is a key factor in determining whether new technology--including educational technology--will serve the few or the many.

Conclusions

The objective in this paper has been to review evidence regarding the motivational, pedagogical and social factors which influence the effectiveness of new communication techology for distance education. We have been concerned with the changes in teaching methods and the institutional organisation of the "school" to make new technology really effective.

Five general observations about the adaptation seem most important in this matter:

1. The Motivations of Students

Because programmes of distance education frequently are designed to reach students in less formal and more individualised contexts (the student receiving classes in the home), the instructional programme

should be designed to respond to the specific needs and motivations that students may have. The more individualised approach of distance education, however, can foster precisely that personal initiative dimension of education.

2. The Use of the Medium

Classroom teaching experience may not be a guarantee that the teacher will be equally good with distance education methods. It is important to consciously use the full potential of the medium--radio or television--to appeal to all of the faculties of the student: the imagination, the ability to detect and solve problems, written and spoken skills, etc.

3. The Combination of the Media and Other Learning Experiences

Because distance education frequently takes the learning experience out of the classroom context, it opens up a much more flexible educational process which can involve a combination of many teaching experiences. The effectiveness of the use of communication technology will depend very much on the skill in combining a new medium such as radio with other media and other dimensions of learning experience.

4. The "Social" Dimension of Social Communication

Media such as radio and television have developed as mass, cultural influences. It is important that the instructional process not be impersonal information but instead integrated into a social process in the community or region.

5. The "Educable Moment" in the Process of Structural Change

Because distance education tends to reach a large number of students simultaneously, it is most effective when it builds on the current social and cultural trends--the particular moment of structural

change in the country--and encourages students to become an active part of the social and cultural development which is occurring.

Footnotes

[1]Klees, Steven J. and Stuart J. Wells, "Economic Analysis and Evaluation: Critical Issues in Application to Instructional Technology Evaluation," in Economic Analysis of Educational Media, a report published by UNESCO, USAID; EDUTEL and ICEM, March, 1977, p. 59.

[2]Illich, Ivan, Deschooling Society. (New York: Harper and Row, 1970)

[3]Schramm, Wilbur, Big Media, Little Media. (Beverly Hills-London: Sage Publications, 1977).

[4]Jamison, Dean T. and Emile G. McAnany, Radio for Education and Development. (Beverly Hills-London: Sage Publications, 1978).

[5]Perraton, Hilary, ed., Alternative Routes to Formal Education, Distance Teaching for School Equivalency, The World Bank, Washington, D.C., 1980.

[6]UNESCO, The Economics of New Educational Media, Vol II. Cost and Effectiveness. (Paris: UNESCO, 1980).

[7]Jamison and McAnany, Radio for Education, pp. 133-136.

[8]Klees and Wells, "Economic Analysis", pp. 66-67.

[9]Coombs, Philip H., with Manzoor, A. Attacking Rural Poverty: How Nonformal Education Can Help. (Baltimore, Md.: The Johns Hopkins University Press, 1974), p. 171.

[10]White, Robert A. An Alternative Pattern of Basic Education: Radio Santa Maria. (Paris: UNESCO, 1976).

Radio Santa Maria developed as a 10,000 watt cultural-educational broadcasting station under the direction of the Jesuits, largely of Spanish and Cuban background. It also has an efficient offset printing press for its educational materials. In 1970 RSM, after some years experience with a nonformal basic education radio school project, introduced the formal education equivalency model developed by an educational radio station in the Canary Islands (Radio ECCA). Printed materials are distributed weekly to enrolled students who receive daily accompanying radio instructions in their homes and meet weekly with an auxiliary teacher, along with other RSM students, to ask questions, discuss a cultural social theme, and at the end of the course present examinations. The students pay 25 centavos per week to receive the printed learning materials, 15 centavos of which goes to the auxiliary teacher to defray small costs and to serve as a small monetary incentive.

[11]White, An Alternative Pattern, p. 21.

[12] Ibid. p. 11.

[13] Carnoy, Martin. Education as Cultural Imperialism. (New York: David McKay Company, Inc., 1974).

[14] Freire, Paulo. Education for Critical Consciousness. (New York: Seabury Press, 1973).

[15] Smith, Willaim A.. The Meaning of Conscientizacao: the Goal of of Paulo Freire's Pedagogy. (Amherst, Mass.: Center for International Education, 1976).

[16] White, Robert, The Adult Education Program of Acción Cultural Popular Hondureña: an Evaluation of the Rural Development Potential of the Radio School Movement in Honduras, Vol I. St. Louis: St. Louis University, Department of Anthropology and Sociology, October, 1972.

[17] Hall, Budd L. and Tony Dodds, "Voices for Development: the Tanzanian National Radio Study Campaigns," in Radio for Education and Development: Case Studies, 2 Vols. Ed. by Peter L. Spain, Dean T. Jamison and Emile McAnany. (Washinton, D.C.: The World Bank, 1978), pp. 260-299.

[18] Theroux, James M. Techniques for Improving Educational Radio Programmes. (Paris: UNESCO, 1978), pp. 8-10.

[19] Searle, Barbara, Patrick Suppes and Jamesine Friend, "The Nicaraguan Radio Mathematics Project," in Radio for Education and Development: Case Studies, p. 2.

[20] White, R. An Alternative Pattern, p. 24.

[21] White, Robert A. Mass Communications and the Popular Promotion Strategy of Rural Development in Honduras. (Stanford, Calif.: The Institute for Communication Research, 1976), pp. 55-67.

[22] Jamison and McAnany, Radio for Education and Development, pp. 12-15.

[23] Theroux, Techniques, pp. 24-25.

[24] In the early period of ACPH's development, supervisors were peasant leaders who worked almost as volunteers. But gradually there was pressure to improve the quality of supervision and give them more training. They then began to recruit younger men of peasant background but with higher levels of education and more upwardly mobile. These lost contact with the students they were supposed to serve and, organising as a "sindicato" began to oppose the central office staff. Eventually all had to be dismissed, and ACPH has returned to its original idea of supervisors as semi-volunteers.

[25]Hall and Dodds, "Voices for Development".

[26]White, An Alternative Pattern, pp. 70-71.

[27]White, Mass Communications and the Popular Promotion Strategy, pp. 67-81.

[28]McAnany, Emile G., "The Role of Information in Communication With the Rural Poor: Some Reflections," in Communications in the Rural Third World, Ed. by Emile G. McAnany. (New York: Praeger, 1980), pp. 15-16.